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ABSTRACT

This profile is designed as a recording sheet for monitoring an individual student's progress throughout the school year. Fifth grade assessment materials and the "Strategies for Instruction in Mathematics" suggest tasks and questions that can be used for on-going and summative assessment. Directions for use and descriptions of levels of performance are presented. (ASK)

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Mathematics

Fifth Grade Observation Profile for On-Going Assessment and End of the Year Evaluation

This profile is designed as a recording sheet for monitoring an individual student's progress throughout the school year. The *Strategies for Instruction in Mathematics* suggests tasks and questions that can be used for on-going and summative assessment.

Directions for use:

The four main mathematical goals and the specific objectives from the North Carolina *Standard Course of Study* are clustered on this profile according to "big ideas." There are six boxes for recording a student's performance level (1, 2, 3, or 4) at each grading period as some school systems have six grading periods, while others have four grading periods. Teachers will use only the boxes needed. The hexagon beside each "big idea" is for the teacher's summative evaluation and will be filled in at the end of the year.

It is suggested that teachers record an evaluation (performance level) for each objective that is taught during a particular grading period; it is not necessary to record an evaluation for objectives that have not been addressed. Student work, conversations with the student, and observations provide evidence for the evaluation of performance. Evaluations are based on the student's abilities to explain, model, and apply learning. Student work folders (or portfolios) will support the evaluation.

Public Schools of North Carolina
State Board of Education
Department of Public Instruction

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Student Name _____ ID # _____ Teacher's Name _____ School _____ Year _____

Fifth Grade Observation Profile for On-Going Assessment and End of the Year Evaluation

Number Sense, Numeration, and Numerical Operations - Spatial Sense, Measurement, and Geometry - Patterns, Relationships, and Functions - Data, Probability, and Statistics

NAME _____

Descriptions of levels of Performance

Level IV (Exceeds expectations)
- consistent performance beyond grade level
- works independently
- understands advanced concepts
- applies strategies creatively
- analyzes and synthesizes
- shows confidence and initiative
- justifies and elaborates responses
- makes critical judgements
- makes applications and extensions beyond grade level; applies Level III competencies in more challenging situations

Level III (Proficient)
- **exhibits consistent performance**
- **shows conceptual understanding**
- **applies strategies in most situations**
- **responds with appropriate answer or procedure**
- **completes tasks accurately**
- **needs minimal assistance**
- **exhibits fluency and applies learning**
- **shows some flexibility in thinking**
- **works with confidence**
- **recognizes cause and effect relationships**
- **applies, models, and explains concepts**

Level II (Not yet proficient)
- exhibits inconsistent performance and misunderstandings at times
- shows some evidence of conceptual understanding
- has difficulty applying strategies or completing tasks in unfamiliar situations
- responds with appropriate answer or procedure sometimes
- requires teacher guidance frequently
- needs additional time, opportunities
- demonstrates some Level III competencies but is inconsistent

Level I (Limited performance)
- exhibits minimal performance
- shows very limited evidence of conceptual understanding and use of strategies
- responds with inappropriate answer and/or procedure frequently
- very often displays misunderstandings
- completes task appropriately and accurately infrequently
- needs assistance, guidance and modified instruction

Using rational numbers

1.01 Use place value through millions in real-world situations including reading, writing, estimating, and comparing numbers in a variety of forms.

1.06 Find multiples, common multiples, and least common multiple of numbers; explain.

1.07 Find the factors, common factors, and greatest common factor of numbers; explain.

1.08 Identify prime and composite numbers less than 100.

1.09 Identify equivalent decimals and fractions at the symbolic level. Explain the equivalence.

1.10 Compare and order numbers with decimals to the thousandths place; explain solution.

1.11 Compare and order fractions which are given with the same numerators or the same denominators; explain solution.

Computing

1.02 Estimate products; multiply any whole number by a 2- or 3-digit factor.

1.03 Relate exponential notation to repeated multiplication.

1.04 Estimate and solve division problems with 2- and 3- digit divisors; explain solution.

1.05 Use the order of operations to simplify numerical expressions.

1.12 Add and subtract fractions with like denominators.

1.13 Multiply a fraction by a whole number.

1.14 Use models and pictures to add and subtract fractions and mixed numbers with unlike denominators; record solutions.

1.15 Estimate results and compute sums and differences with decimal numbers.

1.16 Use models and pictures to multiply a whole number by a decimal number; record and explain.

3.02 Identify and use the rules for divisibility.

Solving problems

1.17 Determine if there is sufficient information to solve a problem; identify missing or extraneous data in problem-solving situations.

1.18 Solve multi-step problems using an organized approach, and selecting additional strategies including
- restate the problem
- write a number sentence
- classify
- lists

Verify and interpret results with respect to the original problem; use calculators as appropriate.

2.09 Use an organized approach, appropriate strategies, and technology as needed to solve multi-step problems involving geometry, spatial visualization, and measurement (length, weight, time, capacity, temperature, perimeter, area, volume.)

2.10 Verify and interpret results with respect to the original problem; identify alternate strategies for solving a problem. Use calculators and computers as appropriate.

3.05 Use an organized approach and appropriate strategies including calculators to solve multi-step problems involving patterns, relationships, and functions.

4.09 Use an organized approach and appropriate strategies to solve multi-step problems involving graphing, probability, and statistics. Use calculators and computers as appropriate.

Using geometric concepts

2.03 Use concrete and pictorial representations and appropriate vocabulary to compare and classify polygons and polyhedra; create models of polyhedra (cubes, cylinders, cones, prisms, and pyramids.)

2.04 Use a compass to draw circles; identify and determine the relationships among the radius, diameter, chord, center, and circumference.

2.05 Use a protractor to draw and measure acute, right, and obtuse angles; identify and label the vertex, rays, interior and exterior of an angle.

2.06 Use a variety of quadrilaterals and triangles to draw conclusions about the sum of the measures of the interior angles; use appropriate technology.

2.01 Use and make models to demonstrate formulas for the area and perimeter of squares and rectangles, to compare units of area within the same system, and to investigate and compare units of volume.

2.02 Calculate the area and perimeter of rectangles and the perimeters of plane figures.

2.07 Model proportions by reducing or enlarging drawings using grids.

2.08 Investigate similar figures using rulers and protractors.

Algebraic thinking

3.01 Investigate patterns that occur when changing numerators or denominators of fractions. Model with concrete materials and extend to calculator investigations.

3.03 Use patterns, relationships, and functions occurring in computation, geometry, graphs, and other applications to make generalizations and predict results.

3.04 Use models to represent variables, expressions, and relationships.

Using data/probability

4.01 Interpret and construct line graphs.

4.02 Explain the kinds of decisions that need to be made in selecting and constructing appropriate graphs including pictograph, bar, line plot, circle, and line graph.

4.03 Systematically collect, organize, display and interpret data both orally and in writing using information from a variety of content areas.

4.04 Compare increasingly complex displays of data, including multiple sets of data on the same graph, computer applications, and Venn diagrams

4.05 Determine the mean of a given set of data using a calculator when appropriate.

4.06 Use the range, median, mean and mode to describe a set of data.

4.07 Show all arrangements (permutations) and combinations of up to four items; list and explain all possible outcomes in a given situation.

4.08 Compare experimental and theoretical (expected) results for a variety of simple experiments.

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